Special Issue

Enhanced Properties of Materials by Surface Peening and Modification Technologies

Message from the Guest Editor

Surface peening and modification technologies are applied to various materials to improve the various properties in a wide range of applications via surface severe plastic deformation (S2PD) thanks to grain size refinement and induced compressive residual stress. In addition, they change the phase composition of materials, which is essential for improving their mechanical properties, wear resistance, corrosion resistance, fatigue endurance, etc. Hence, this SI elaborates on the recent innovations in S2PD-based technologies such as shot peening, laser peening, ultrasonic nanocrystal surface modification, ultrasonic surface rolling process, water jet peening, cavitation peening, etc. In particular, this SI focuses on assessing the impact of laser- and ultrasonic-based S2PD technologies on microstructural changes, mechanical properties, wear resistance, corrosion resistance, fatigue endurance, etc. Numerical analyses of surface peening and modification technologies will also be considered.

We invite researchers from all over the world to submit their original research papers or review articles. Moreover, this SI welcomes interesting research papers from the 8th ICLPRP.

Guest Editor

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Deadline for manuscript submissions

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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